

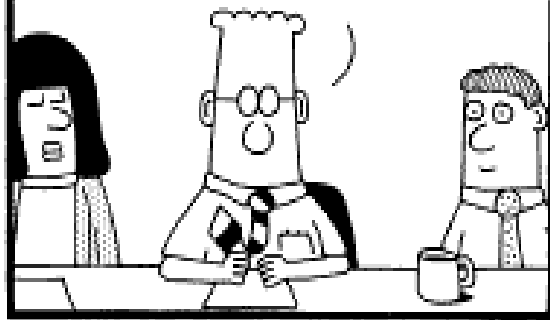
CONTEXT SENSITIVE DESIGN IN RURAL SETTINGS

Federal Lands Highway



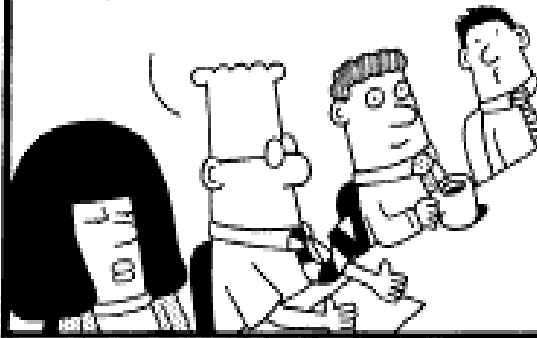
Ron Burnett, P.E. 4/30/2002

TODAY IS THE THREE-YEAR ANNIVERSARY OF OUR FIRST MEETING TO DISCUSS PROJECT REQUIREMENTS.



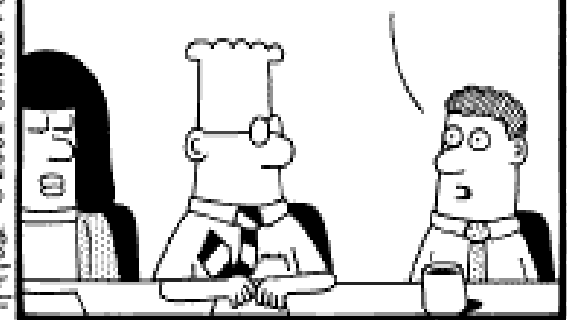
www.dilbert.com
scottadams@sdl.com

AND WE'RE STILL DISCUSSING REQUIREMENTS. DOES ANYONE ELSE SEE A PROBLEM HERE?



4/14/02 © 2002 United Feature Syndicate, Inc.

WHEN YOU'RE DONE, CAN WE TALK ABOUT REQUIREMENTS?



CSD - WHAT IS IT?



Federal Lands Highway

VISION

Create the best transportation system in balance with values of Federal and Tribal lands

CONTEXT SENSITIVE DESIGN (CSD)

- Allows FLH to achieve its vision
- CSD utilized on most projects

Early Planning & Public Involvement

- Project Scope
 - Purpose & Function of Road
 - Environmental Issues
 - Historic and Archeological
 - Community Values
- Public Meetings
- Include Partners and Stakeholders

CSD & Road Standards

- Real Purpose and Function of Road
 - Arterial? - Collector? - Local?
 - Special-Purpose?
- Balance Speed & Road Standards
 - Function & Purpose of Road
 - Community & Environmental values

Highway Standards Used by FLH

- Generally...AASHTO Green Book
 - *“Policy on Geometric Design of Highways and Streets”*
- State or Local Government Design Stds.
- Federal Land Agency Stds
- Tribal Government Stds.

CSD

Grading Enhancements

- Curvilinear Designs
 - Lie Lightly on the Land
 - Free flowing alignment
- Roadway Section
 - Fill and Cut Slopes
 - Slope Rounding
 - Ditches
 - Rock sculpturing

Roadside Features

- Barriers
 - Traditional
 - Natural or Simulated Stone
 - Steel Backed-Timber
 - Special Coatings
- Ditches
 - Rounded
 - Masonry (Stone or Brick)
- Fences
- Curb and Sidewalks

Architectural Features

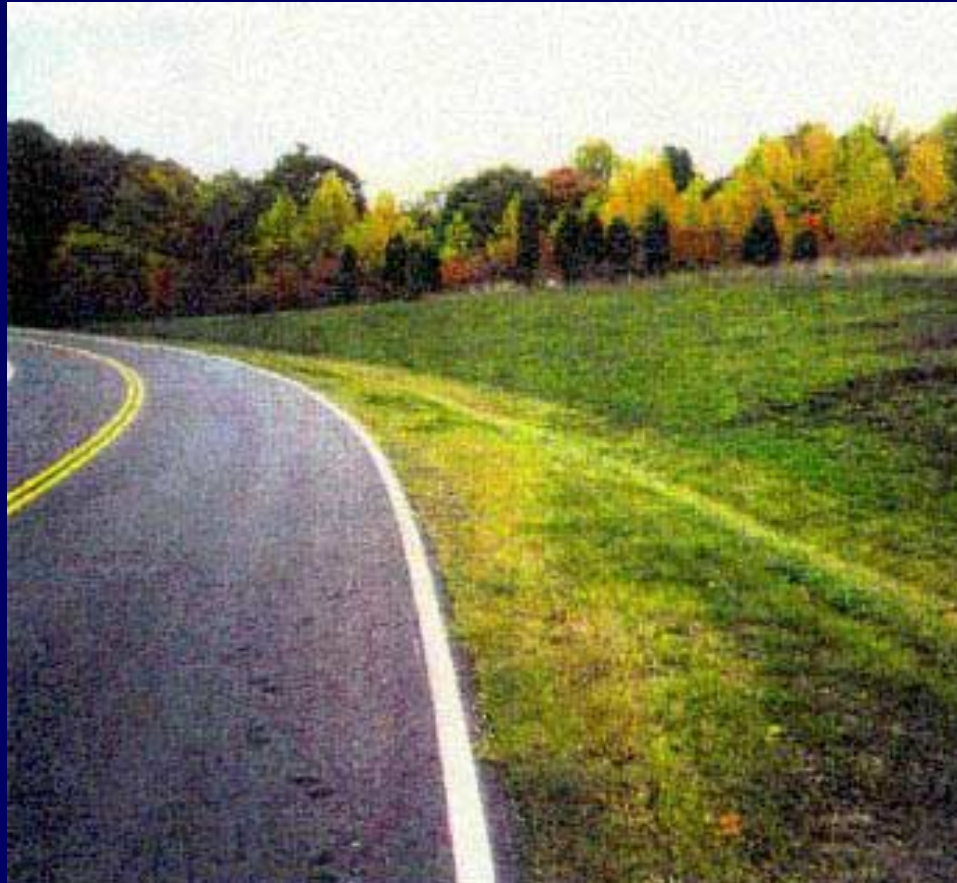
- Bridge Shapes
 - Arch
 - Trapezoidal
 - Shapes to Match Community Values
- Walls
 - Slender
 - Massive
 - Curvilinear
 - Step

WHEN DOES CSD APPLY?

- Early environment and planning
- Project Development - Design
- Construction
- Post Construction
 - Evaluate what worked
 - Evaluate maintenance
 - Identify opportunities to improve

RURAL CSD EXAMPLES FROM AROUND THE COUNTRY

STABILIZED SOIL SHOULDER ROUNDED DITCHES



BALTIMORE WASHINGTON PARKWAY, MARYLAND



Precast Artificial Stone Guardwall

STONE MASONRY GUARDWALL



Skyline Drive



BLUE RIDGE PARKWAY



Typical Steel Backed Timber Guardrail

BLUE RIDGE PARKWAY



Steel-Backed Timber Guardrail

BLUE RIDGE PARKWAY, NORTH CAROLINA



Rubble Waterway

BLUE RIDGE PARKWAY, NORTH CAROLINA



Rubble Waterway

BLUE RIDGE PARKWAY, VIRGINIA
GRAND FATHER MOUNTAIN – ROUGH RIDGE



Stone Faced MSE Wall

NC ROUTE 421 -- BLUE RIDGE PARKWAY



Step Wall

BLUE RIDGE PARKWAY



Stone Masonry Arch --

OHIO FOREST HIGHWAY, WAYNE NATIONAL FOREST



Natural Bottom Steel Arched Culvert

NATCHEZ TRACE PARKWAY, TENNESSEE



Variable Depth Post Tensioned Box Girder Bridge

NATCHEZ TRACE PARKWAY



Selective Clearing

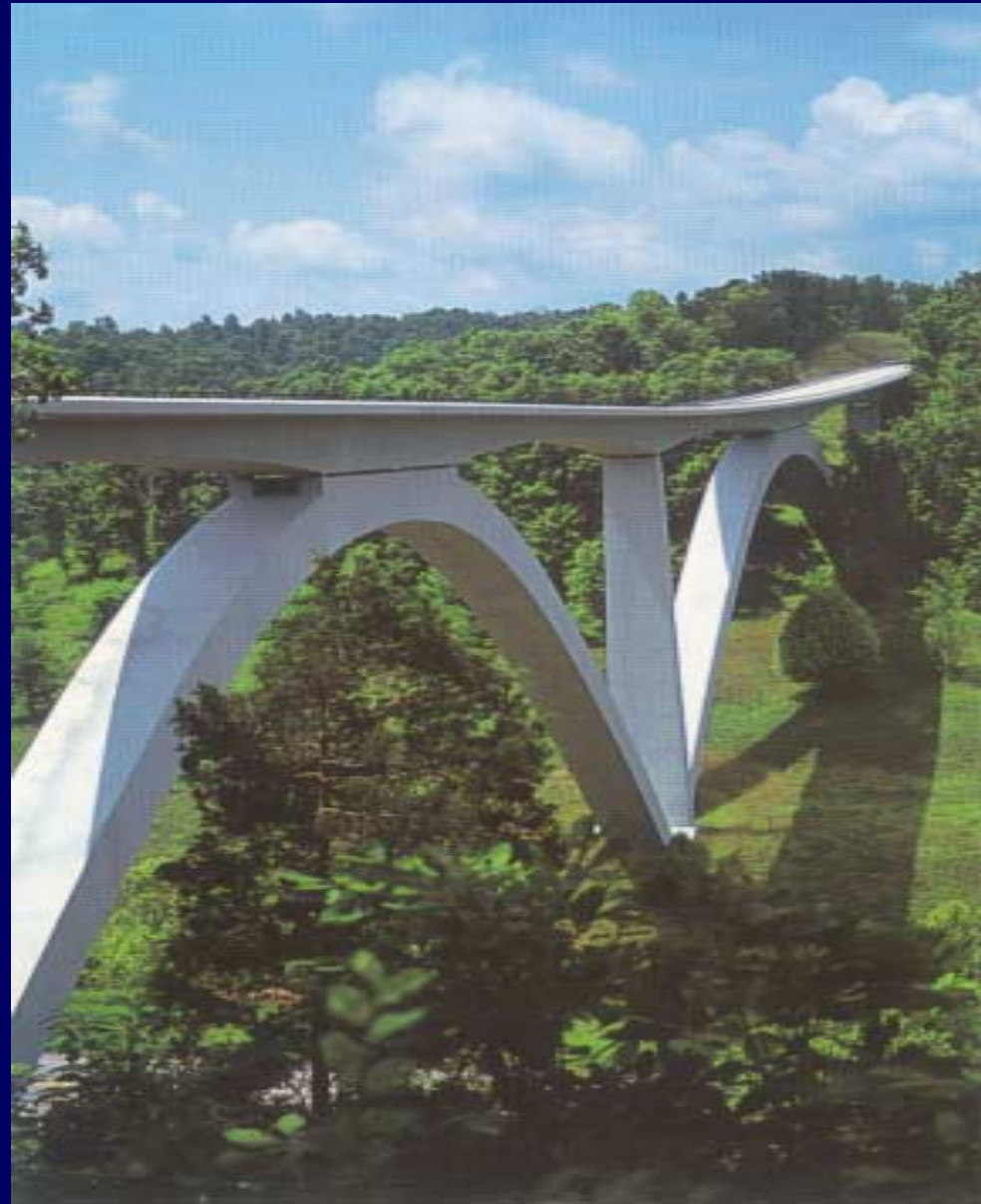
NATCHEZ TRACE PARKWAY, TENNESSEE



Curvilinear Alignment & Meandering Tree Line

NATCHEZ TRACE
PARKWY, TENNESSEE

Double Arch Bridge



YOSEMITE, CALIFORNIA



LAKE MEAD, ARIZONA



NATCHEZ TRACE PARKWAY, TENNESSEE



Variable Depth Three Span Post-Tensioned Box Girder Bridge

VOYAGEURS NATIONAL PARK, MINNESOTA



CHEROHALA SKYWAY, NORTH CAROLINA



National Scenic Byway

Sequoia National Park



Sequoia National Park



GENERAL'S HIGHWAY - SEQUOIA NP, CALIFORNIA



Form Liner Stone Guardwall

Mt. LEMMON, ARIZONA



Rock Sculpturing and Landscaping



GREAT SMOKY MOUNTAIN NATIONAL PARK, TENNENNSEE



The Loop

GREAT SMOKY MOUNTAIN NATIONAL PARK, TENNENNSEE



River Bank Repair – Full Depth Grouted Riprap

GREAT SMOKY MOUNTAIN NATIONAL PARK, TENNENNSEE



Stone Faced Retaining Wall

Nez Perce Creek Bridge, Yellowstone National Park



Yellowstone National Park



RURAL CSD EXAMPLES FROM THE NORTHWEST

Mather Memorial Parkway











Rainier National Park Hwy. Companion Sites









10 12 70

Harlequin Bridge

WELCOME
to
STEHEKIN

LAKE CHELAN NATIONAL RECREATION AREA

23 10'99









Mesa Falls Highway







Grand Loop Road







Lost Trail Pass







Historic Columbia River Bike Path











CSD Processes for Design Excellence

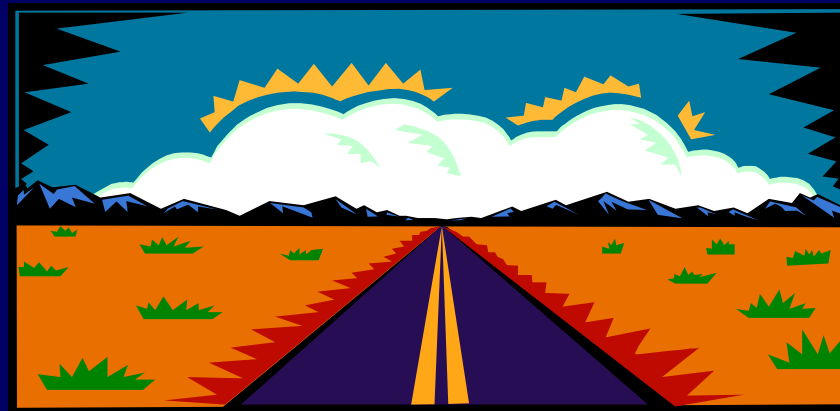
- Continuous open honest communication with stakeholders from start to finish
- Multi-discipline team established early, focused on specific project needs
- Full range of stakeholders involved in scoping
- Project development is tailored to meet circumstances
- Commitment by top agency officials
- Formal/informal public involvement
- Learn the landscape, the community, and the resources before engineering begins
- Utilize a full range of tools for communication about a project

FHWA CSD WEBSITE

<http://www.fhwa.dot.gov/csd/>



THANK YOU



FLH Thinking Beyond The Pavement